AMENDMENT TO THE SPECIFICATION

Please amend the specification at the following pages and paragraphs as indicated.

Please amend the entire paragraph beginning on page 1, line 13 as follows:

Parametric speech coders based on a sinusoidal speech production model have been shown to achieve high quality synthetic speech under certain input conditions. In fact, the parametric-based speech codec, as described in U.S. Application Serial No. [[________]] 09/159,481, titled "Scalable and Embedded Codec For Speech and Audio Signals," and filed on September 23, 1998 which has a common assignee, has achieved toll quality under a variety of input conditions. However, due to the underlying speech production model and the sensitivity to accurate parameter extraction, speech quality under various background noise conditions may suffer.

Please amend the entire paragraph beginning on page 4, line 9 as follows:

The Spectral Estimation algorithm of the present invention first computes an estimate of the power spectrum of s(n) using a pitch adaptive window. A pitch P_O and voicing probability P_V dependent envelope is then computed and fit by an all-pole model. This all-pole model is represented by both Line Spectral Frequencies LSF(p) and by the gain, log2Gain, which are quantized by LSF Quantization block 145 and Gain Quantization block 150, respectively. Middle Frame Analysis block 160 uses the parameters s(n), P_O, [A]Q(P_O), and [A]Q(P_V) to estimate the 10ms mid-frame pitch P_{O_mid} and voicing probability P_{V_mid}. The mid-frame pitch P_{O_mid} is quantized by Middle Frame Pitch Quantization block 165, while the mid-frame voicing probability P_{V_mid} is quantized by Middle Frame Voicing Quantization block 170.

Please amend the entire paragraph beginning on page 6, line 15 as follows:

The pitch estimation block 110 implements the Low-Delay Pitch Estimation algorithm (LDPDA) to the input signal s(n). LDPDA is described in detail in section B.6 of U.S. Application Serial No. [[________]] 09/159,481, filed on September 23, 1998 and having a common assignee; the contents of which are incorporated herein by reference. The only difference from U.S. Application Serial No. [[________]] 09/159,481

is that the analysis window length is 271 instead of 291, and a factor called β for calculating Kaiser window is 5.1, instead of 6.0.

Please amend the entire paragraph beginning on page 9, line 23 and continuing over to page 10 as follows:

The blocks 3510, 3520 and ~~3525~~ 3025 show how to generate the feature Rc. After calculating the normalized multi-band correlation coefficients and the multi-band energy in block 3400, the normalized correlation coefficient of certain bands can be estimated by:

$$Rt(a,b) = \sum_{m=a}^{b} (NRc(m) * E(m)) / \sum_{m=a}^{b} E(m),$$

where Rt(a,b) is the normalized correlation coefficient from band a to band b. Using the above equation, the low-band correlation coefficient R_L is computed in block 3510 and the full-band correlation coefficient R_f is computed in block 3520. In block ~~3525~~ 3025, the maximum of R_L and R_f is chosen as the feature Rc.

Please amend the entire paragraph beginning on page 13, line 17 as follows:

FIG. 6 illustrates in greater detail the main elements of 410. The complex spectra F(k) is used in 600 to calculate the power spectrum P(k) that is then filtered by the inverse response of a modified IRS filter in 610. The spectral peaks are located using the Seevoc peak picking algorithm in Block 620, the method of which is identical to FIG. 5, Block 50 of U.S. Application Serial No. [[__________]] 09/159,481.

Please amend the entire paragraph beginning on page 15, line 11 as follows:

The middle frame analysis block 160 consists of two parts. The first part is middle frame pitch analysis and the second part is middle frame voicing analysis. Both algorithms are described in detail in section B.7 of U.S. Application Serial No. [[__________]] 09/159,481.

Please amend the entire paragraph beginning on page 17, line 4 as follows:

FIG. 7 further describes the Complex Spectrum Computation block 210 of FIG. 2. The process begins by calculating the minimum phase envelope MinPhase(k) and log2 spectral magnitude envelope Mag(k) from the linear reductions coefficients A(p) through the process of LPC To Cepstrum block 700 and Cepstrum To Envelope block 710. This process is identical to that described by block 15 FIG. 6 in U.S. Application Serial No. [[________]] 09/159,481.

Please amend the entire paragraph beginning on page 21, line 2 as follows:

The parameters F0, P_V, MinPhase(k) and freq(h) are fed into Calculate Phase block 280 where the final sine-wave phases Phase(h) are derived. Below P_V, the minimum phase envelope MinPhase(k) is sampled at the sine-wave frequencies freq(h) and added to a linear phase component derived from F0. This procedure is identical to that of block 756, FIG. 7 in U.S. Application Serial No. [[________]] 09/159,481.

Please amend the entire paragraph beginning on page 21, line 11 as follows:

The signal x(n) is overlap-added with the previous subframe signal in OverlapAdd block 295. This procedure is identical to that of block 758, FIG. 7 in U.S. Application Serial No. [[________]] 09/159,481.